Center Independent Research & Development: GSFC IRAD

Improved Transition-edge Sensors Project: Improved Josephson Junctions in YBCO materials

Completed Technology Project (2017 - 2018)

Project Introduction

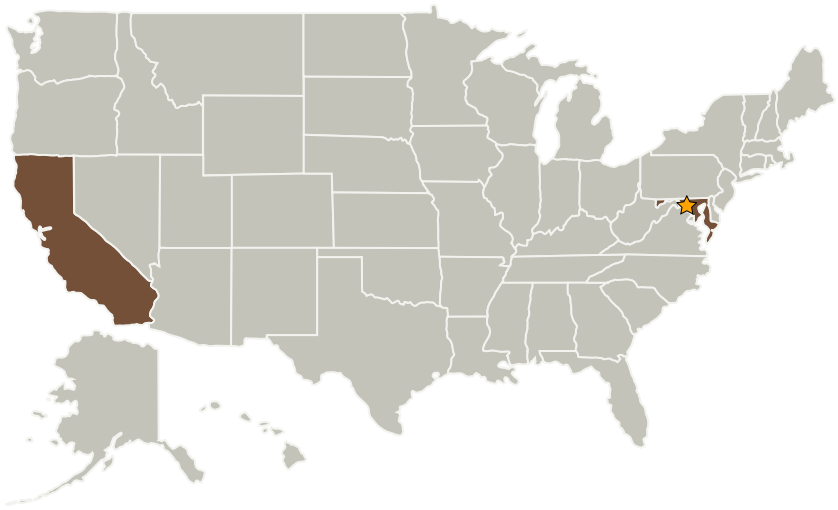
Better feature resolution in YBCO materials to create better Josephson junctions.

Anticipated Benefits

Improved detection of magnetic fields and of small electrical currents.

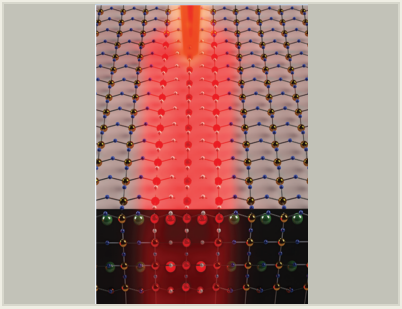
Can be used as part of the readout electronics for a sensitive infrared detector.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

Co-Funding Partners	Type	Location
University of California-Riverside	Academia Asian American Native American Pacific Islander (AANAPISI), Hispanic Serving Institutions (HSI)	Riverside, California



Improved Transition-edge Senors Project

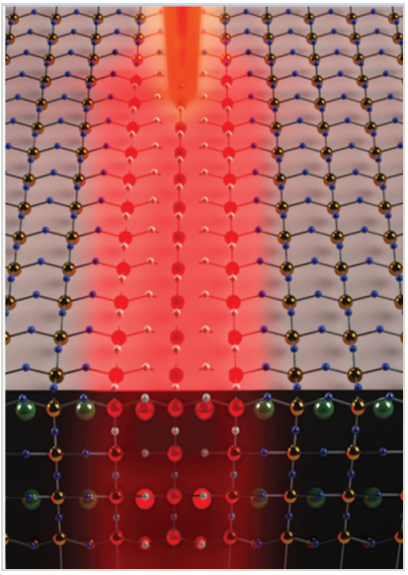
Table of Contents

Improved Transition-edge Sensors Project: Improved Josephson Junctions in YBCO materials

Completed Technology Project (2017 - 2018)

Primary U.S. Work Locations	
California	Maryland

Images



Improved Transition-edge Senors Project
Improved Transition-edge Senors Project
(https://techport.nasa.gov/image/28485)

Organizational Responsibility

Responsible Mission Directorate:
Mission Support Directorate (MSD)

Lead Center / Facility:
Goddard Space Flight Center (GSFC)

Responsible Program:
Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:
Peter M Hughes

Project Manager:
Brook Lakew

Principal Investigator:
John C Brasunas

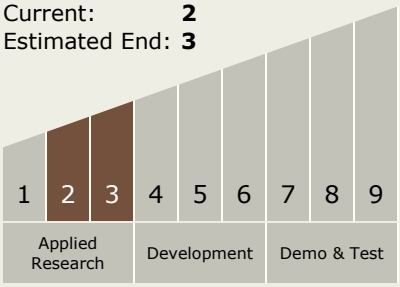
Co-Investigators:
Shahid Aslam
Thomas R Stevenson
Shane Cybart

Improved Transition-edge Sensors Project: Improved Josephson Junctions in YBCO materials

Completed Technology Project (2017 - 2018)

Technology Maturity (TRL)

Start: **2**
Current: **2**
Estimated End: **3**



Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.1 Detectors and Focal Planes

Target Destinations

Earth, Mars, Outside the Solar System